

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application;

--1. (Currently Amended) An acoustic apparatus comprising:

a headphone section mounted on a ~~user~~ user's head[[,]] having [[a]] first and second headphone boxes arranged respectively on the ears of the user and having first and second microphone element elements mounted respectively on the first and second headphone boxes for detecting sound around the user and [[a]] signal acoustic transducing element elements mounted respectively in the first and second headphone boxes functioning as [[a]] sound source—~~for canceling the sound around the user, housed in a headphone box,~~ sources with [[a]] first output terminal terminals for outputting [[a]] microphone audio signal signals collected by the first and second microphone element elements and [[a]] first input terminal terminals for inputting a ~~cancel~~ audio signal signals supplied to the first and second signal acoustic transducing element elements; and

a control circuit section separate and independent from the headphone section and having [[a]] second input terminal terminals connected to the first output ~~terminal~~ terminals and [[a]] second output terminal terminals connected to the first input ~~terminal~~ terminals for controlling at least frequency characteristics and gain characteristics of the microphone audio ~~signal~~ signals from the first and second microphone

~~element~~ elements of the headphone section input through the second input ~~terminal~~ terminals, for generating ~~[[the]]~~ a cancel audio signal for canceling effects of the sound around the user in the signals fed to the first and second signal acoustic transducing elements, and for supplying the cancel audio signal to the first and second signal acoustic transducing ~~element~~ elements of the headphone section through the second output ~~terminal~~ terminals, whereby ambient sound around the user is cancelled in a range of 50 Hz to 1.5 kHz, said control circuit section further including recording means for recording the microphone audio ~~signal~~ signals output from the first and second microphone ~~element~~ elements as binaural audio signals.

--2. (Cancelled)

--3. (Previously Presented) The acoustic apparatus according to claim 1, wherein the control circuit section further comprises:

means for adding different audio signals to the cancel audio signal using a signal audio converter element.

--4. (Previously Presented) The acoustic apparatus according to claim 1, wherein the control circuit section further comprises:

means for adding different audio signals to the cancel audio signal using a signal audio converter element as a sound source; and

a remote control configured to supply remote-control signals for remotely controlling output of the different audio signals.

--5. (Currently Amended) An acoustic apparatus comprising:

a headphone section mounted on a ~~user~~ user's head, having [[a]] first and second headphone boxes arranged respectively on the ears of the user, first and second microphone element elements mounted on the first and second headphone boxes for detecting sound around the user and a, first and second signal acoustic transducing element elements arranged in the first and second headphone boxes functioning as [[a]] sound sourcee for canceling the sound around the user, housed in a headphone box with a, sources, first output terminal with terminals, an adjusting section for adjusting an output outputs of [[a]] microphone audio signal signals collected by the first and second microphone element elements, and [[a]] first input terminal terminals for inputting a cancel audio signal supplied to the first and second signal acoustic transducing element elements, and

a control circuit section arranged in a housing separate and independent from the headphone section and having a second input ~~terminal~~ terminals connected to the first output ~~terminal~~ terminals and [[a]] second output terminal terminals connected to the first input ~~terminal~~ terminals for controlling at least frequency characteristics and gain characteristics of the

microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements of the headphone section input through the second input ~~terminal~~ terminals, for generating the cancel audio signal that can serve as a sound source for canceling effects of the sound around the user, and for supplying the cancel audio signal to the first and second signal acoustic transducing ~~element~~ elements of the headphone section through the second output ~~terminal~~ terminals, whereby ambient sound around the user is cancelled in a range of 5 Hz to 1.5 kHz, said housing also having arranged therein recording means for recording the microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements as binaural signals.

--6. (Currently Amended) The acoustic apparatus according to claim 5, wherein an amplifier section is included in ~~[[the]]~~ each first and second headphone box behind the adjusting section for amplifying the microphone audio ~~signal~~ signals from ~~them~~ the first and second microphone ~~element~~ elements and for adjusting the microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements, where gains are controlled by amplifying the microphone audio ~~signal~~ signals.

--7. (Currently Amended) The acoustic apparatus according to claim 5, wherein an amplifier section for generating signals serving as a sound source for canceling the sound around the user and adjusting means for adjusting an output level of the amplifier section are provided in ~~[[the]]~~ each

first and second headphone box, and gains of the cancel audio first and second signal input to the signal acoustic transducing ~~element~~ elements are controlled.

--8. (Currently Amended) The acoustic apparatus according to claim 5, wherein an adjusting section adjusts the microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements that ~~serves~~ serve as [[a]] sound ~~source~~ sources for canceling the effects of the sound around the user and adjusts the microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements in the first and second headphone ~~box~~ boxes,

said adjusting means having operating means operable by the user from outside the first and second headphone ~~box~~ boxes, and

an amplifier section for amplifying the microphone audio ~~signal~~ signals adjusted at the adjusting section.

--9. (Currently Amended) An acoustic apparatus comprising:

a recording/playback device;

a headphone section mounted on a ~~user~~ user's head, having [[a]] first and second headphone boxes arranged respectively on the ears of the user and having first and second microphone element elements for detecting sound around the user and [[a]] first and second signal acoustic transducing element elements functioning as [[a]] sound ~~source for canceling the sound~~

~~around the user, housed in a headphone box,~~ sources with ~~[[a]]~~ first output ~~terminal~~ terminals for outputting ~~[[a]]~~ microphone audio ~~signal~~ signals collected by the first and second microphone element elements and ~~[[a]]~~ first input ~~terminal~~ terminals for inputting a cancel audio signal supplied to the first and second signal acoustic transducing element elements; and

a remote control connected to said recording/playback device for controlling operation of said recording/playback device and feeding the microphone audio ~~signal~~ signals to the recording/playback device for recording as binaural signals, said remote controller being separate and independent from the headphone section and including a control section having ~~[[a]]~~ second input ~~terminal~~ terminals connected to the first output ~~terminal~~ terminals and ~~[[a]]~~ second output ~~terminal~~ terminals connected to the first input ~~terminal~~ terminals for controlling at least frequency characteristics and gain characteristics of the microphone audio ~~signal~~ signals from the first and second microphone element elements of the headphone section input through the second input ~~terminal~~ terminals, with said frequency characteristics and gain characteristics being adjusted to achieve a predetermined level at a predetermined frequency between 50 Hz and 1.5 kHz, for generating the cancel audio signal that can cancel the ambient sound around the user within a range of 50 Hz to 1.5 kHz, and for supplying the cancel audio signal to the first and second signal acoustic transducing element elements of the headphone section through the second output ~~terminal~~

terminals.

--10. (Currently Amended) An acoustic apparatus comprising:

a headphone section mounted on a user head, having a microphone ~~element~~ elements mounted on the first and second headphone boxes for detecting sound around the user and ~~[[a]] first and second signal acoustic transducing element functioning as [[a]] sound source for canceling the sound around the user, housed in a headphone box,~~ sources with ~~[[a]] first output terminal~~ terminals for outputting ~~[[a]] microphone audio signal~~ signals collected by the first and second microphone ~~element~~ elements and ~~[[a]] first input terminal~~ terminals for inputting a cancel audio signal supplied to the first and second signal acoustic transducing ~~element~~ elements;

a control circuit section arranged in a housing separate and independent from the headphone section ~~[[a]] and having~~ second input ~~terminal~~ terminals connected to the first output ~~terminal~~ terminals and a second output ~~terminal~~ terminals connected to the first input terminal for controlling at least frequency characteristics and gain characteristics of the microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements of the headphone section input through the second input ~~terminal~~ terminals, for generating the cancel audio signal for canceling the effects of the ambient sound around the user within a range of 50 Hz to 1.5

kHz, and for supplying the cancel audio signal to the first and second signal acoustic transducing ~~element~~ elements of the headphone section through the second output ~~terminal~~ terminals, and a recording/playback device arranged in the housing for recording the microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements as binaural audio signals; and

a circuit configuration for canceling the surrounding sound used by the control circuit section that is of a feed-forward system.

--11. (Currently Amended) An acoustic apparatus comprising:

a recording/playback device;

a headphone section mounted on a ~~user~~ user's head, having [[a]] first and second headphone boxes arranged on respective ears of the user and having first and second microphone element elements arranged respectively on the first and second headphone boxes for detecting sound around the user and [[a]] first and second signal acoustic transducing ~~element~~ elements functioning as [[a]] ~~sound source for canceling the ambient sound around the user within a range of 50 Hz to 1.5kHz, sources~~ housed in [[a]] first and second headphone box boxes, respectively, with [[a]] first output ~~terminal~~ terminals for outputting [[a]] microphone audio ~~signal~~ signals collected by the first and second microphone ~~element~~ elements and [[a]] first input ~~terminal~~ terminals for inputting a cancel audio signal supplied to the first and second signal acoustic



transducing ~~element~~ elements for canceling effects of ambient sound around the user within a range of 50Hz to 1.5kHz;

a remote controller connected to said recording/playback device for controlling operation of said recording/playback device and feeding the microphone audio ~~signal~~ signals to the recording/playback device for recording as binaural audio signals, said remote controller being separate and independent from the headphone section and including a control circuit section having ~~[[a]]~~ second input ~~terminal~~ terminals connected to the first output ~~terminal~~ terminals and ~~[[a]]~~ second output ~~terminal~~ terminals connected to the first input ~~terminal~~ terminals for controlling at least frequency characteristics and gain characteristics of the microphone audio ~~signal~~ signals from the first and second microphone ~~element~~ elements of the headphone section input through the second input ~~terminal~~ terminals, for generating the cancel audio signal for canceling effects of the sound around the user, and for supplying the cancel audio signal to the first and second signal acoustic transducing ~~element~~ elements of the headphone section through the second ~~terminal~~ output terminals; and

a circuit configuration for canceling the effects of the sound surrounding the user used by the control circuit section that is of a feedback system.

--12 - 15. (Cancelled)